Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Petition for Rulemaking of	)	
	)	
USA Digital Radio Partners, L.P.	)	
	)	
for Amendment of Part 73 of the Commission's Rules to Permit the Introduction of Digital Audio Broadcasting in the AM and FM Broadcast Services	)	RM-9395

To: The Commission

REPLY COMMENTS OF THE CONSUMER ELECTRONICS MANUFACTURERS ASSOCIATION

The Consumer Electronics Manufacturers Association ("CEMA"), by its attorneys, hereby respectfully submits its reply to the comments filed in response to the Commission's Public Notice in DA 98-2244, issued on November 6, 1998, regarding the above-captioned Petition for Rulemaking ("Petition") filed by USA Digital Radio Partners ("USADR").[1] In its Petition, USADR requests that the Commission initiate a rulemaking proceeding to amend Part 73 of the Commission's rules to permit the introduction of terrestrial audio radio ("DAR") in the AM and FM radio bands.[2] Specifically, USADR seeks modification of the Commission's rules to permit existing AM and FM licensees to upgrade their analog broadcast transmission to digital, using in-band, on-channel ("IBOC") DAR technology.

1 Petition for Rulemaking, RM-9395, *Public Notice*, DA 98-2244 (Nov. 6, 1998).

2 *See generally* Petition for Rulemaking of USA Digital Radio Partners, L.P. (filed Oct. 7, 1998) ("USADR Petition").

On December 23, 1998, CEMA filed comments in support of a rulemaking proceeding to implement terrestrial DAR, noting that the introduction of digital audio radio technology is in the public interest and that its implementation will provide improved radio broadcast services to consumers and help promote the future viability of radio broadcasting in the United States. While CEMA did not endorse any particular DAR technology, it urged the Commission to establish performance objectives that should be attained by any proposed DAR technology, and submitted various reports to the Commission to assist it in its evaluation of competing terrestrial DAR systems.[3]

In its review of the record, CEMA observes that comments were submitted by a variety of interests (broadcasting industry, radio station operators, receiver manufacturers, automotive industry, and various interest groups), and that a clear majority of the comments support USADR's request for a rulemaking to implement terrestrial DAR.[4] At the same time, however, parties contend that the IBOC system has not been proven to be a viable system,[5] and that various issues, including interference and testing, need to be fully examined. Below, CEMA provides its reply to several issues raised by other parties.

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[3] *See* CEMA Comments at Appendix A ("CEMA Views on Performance Objectives & Analysis and Assessment of Technical Showings in USADR Petition for Rulemaking") and Appendix B ("Technical Evaluations of Digital Audio Radio Systems: Laboratory and Field Test Results; System Performance; Conclusions," Final Report (December 1997)); Joint Letter from the National Association of Broadcasters and the Consumer Electronics Manufacturers Association to Magalie Roman Salas, dated December 14, 1998, which included the following attachment: *National Radio Systems Committee, DAB Subcommittee, In-Band/On-Channel (IBOC) Digital Audio Broadcasting (DAB) System Test Guidelines, Part 1 – Laboratory Tests*, December 3, 1998.

[4] *Cf.* Big City Radio Comment at 2 ("Because the Petition does not demonstrate adequately that its proposal would not increase interference to existing radio licensees, the Commission should deny the Petition as premature and instead issue a Notice of Inquiry on the subject of digital radio.").

[5] *E.g.*, Comments submitted by Citizens' Media Corps; Prometheus Radio Project.

I. THE COMMISSION MUST UNDERTAKE EFFORTS TO ESTABLISH COMPREHENSIVE TECHNICAL ASSESSMENTS TO WEIGH THE PERFORMANCE OF COMPETING SYSTEMS.

CEMA, like the majority of the commenters, supports a rulemaking proceeding to permit the introduction of the most effective terrestrial DAR system.[6] Commenters recognize that the introduction of digital technology in the AM and FM bands is clearly in the public interest and will enhance the quality and utility of existing AM and FM services. Commenters also agree that the Commission must play a role in the process of setting a transmission standard for terrestrial DAR.[7] As one commenter correctly observes, "[r]adio is a ubiquitous over-the-air medium with numerous outlets in every market throughout the United States."[8] A single standard provides certainty to consumers, licensees, and equipment manufacturers, especially during the launch of this new technology. Further, a single standard will help ensure a smooth implementation of digital audio radio and the preservation of a free and universally available broadcast radio service.

While the majority of commenters support the selection of a single transmission standard, there is no consensus as to which DAR system should be selected. CBS Corporation, for one, acknowledges that "because a number of different [DAR] systems have been developed, it is unlikely that private industry would agree on which one should be selected as the standard."[9]

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6 *See, e.g.*, Comments submitted by CEMA; CBS Corporation; National Association of Broadcasters; Gannett Co., Inc.; Greater Media, Inc.; Clear Channel Communications, Inc.; Radio One, Inc.; National Public Radio; Ford Motor Company; Lucent Technologies Inc.; and Walt Disney Company/ABC.

7 *E.g.*, CEMA Comment at 11-13; Walt Disney/ABC Comment at 4.

8 Walt Disney/ABC Comment at 4.

9 CBS Corporation Comment at 12.

Some parties expressed approval and support only for the IBOC system;[10] other parties urge the Commission to make sure that it considers and evaluates all available DAR systems.[11] Given the varying views, CEMA believes that the Commission must undertake efforts in this proceeding to establish comprehensive technical assessments to weigh the performance of competing systems with emphasis on audio quality, compatibility with existing analog services, and digital coverage and performance.

As indicated in its initial comments, CEMA has no vested interest in any particular DAR system;[12] rather, CEMA's interest in this proceeding is to assist the Commission in evaluating not only the technical viability of IBOC DAR, but also other concepts that enhance terrestrial DAR services, which include exploring the availability of spectrum for these services. Like other parties to this proceeding, CEMA supports the adoption of the best DAR standard available.[13] Ultimately, whichever terrestrial DAR system is selected as the standard, the Commission must be assured that the chosen system meets listeners' expectations in terms of sound quality, and does not interfere with existing analog services. Ideally, the Commission should promote a terrestrial DAR service that possesses better than CD-quality, multi-channel capability with robust coverage and performance for mobile reception, and high ancillary data

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10 *E.g.*, Gannett Co., Inc. Comment at 1-2; Greater Media, Inc. Comment at ii (but opposes implementation of USADR's IBOC DAR standard at this time); CBS Corporation Comment at 9-11; Clear Channel Communications, Inc. Comment at 1-2.

11 For example, Amherst Alliance and Citizens' Media Corps are critical of the IBOC system and endorses, instead, the selection of the Eureka-147 system. *See* Amherst Alliance Comment at 3-4; Citizens' Media Corps Comment at 1.

12 As reflected in the record, USADR is not the only entity working on the design of a digital audio radio system. Lucent Technologies and Digital Radio Express are also working on IBOC systems to bring DAR to the AM and FM listening public. There is also a consortium of companies examining the Eureka-147 system, which some parties (*e.g.*, Citizens' Media Corps and Amherst Alliance) strongly support.

13 *See* Ford Motor Company Comment at 2.

capacity. Such a service, as CEMA noted in its initial comments, would have a clear appeal to the public and help usher radio broadcasting into the digital age with long-term viability.

II. MANY COMMENTERS AGREE THAT IBOC DAR SYSTEMS MUST BE SHOWN TO NOT ADVERSELY AFFECT EXISTING ANALOG SERVICES, WHILE PROVIDING HIGH QUALITY AND ROBUST DIGITAL COVERAGE.

In reviewing the specific viability of IBOC DAR systems, the Commission must be assured that such systems do not adversely affect existing analog services, while providing high quality and robust digital coverage. Commenters that address this issue generally agree that the Commission must establish rules to manage interference to insure that new digital audio transmissions do not interfere with existing analog broadcasting or with other new digital transmissions.[14] Accordingly, the Commission must initiate a rulemaking proceeding that will consider the establishment of interference criteria for terrestrial DAR that will address all issues relating to analog and digital compatibility.

III. THE COMMISSION SHOULD RELY ON LABORATORY TEST RESULTS, NOT JUST FIELD TESTING, TO DEFINE IBOC SYSTEM PERFORMANCE.

In its comments, Lucent Technologies contends that the introduction of IBOC DAR presents technical issues "that must be resolved through field testing prior to initiation of broadcasts."[15] It urges the Commission to require company-conducted field tests of all proposed IBOC DAR systems before the Commission contemplates rule changes. While Lucent

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[14] *See, e.g.*, Ford Motor Company Comment at 10; Walt Disney/ABC Comment at 4-5; Big City Radio Comment at 3.

[15] Lucent Technologies Comment at 15.

Technologies does not discount the meaningful results obtained through laboratory tests, it appears to overstate the value of field testing.

In CEMA's view, the use of field testing alone, without the benefit of laboratory tests, might serve to obfuscate test results. Further, CEMA believes that laboratory results are more appropriate than field testing in defining IBOC system performance. Well-constructed laboratory tests remove variables from resulting data and provide a more definitive, repeatable and useful characterization of system performance. For this reason, the CEMA DAR Subcommittee, and now the NRSC DAB Subcommittee, have focused and developed comprehensive laboratory test procedures. If these are used by system proponents, the resulting data should be comparable not only to their performance with respect to existing analog broadcasting, but, more importantly, to other IBOC DAR system performance.

Furthermore, there is no certainty that field tests can identify with confidence appropriate protection ratios for co-channel, 1st-adjacent, and 2nd- adjacent channel digital-to-analog, or analog-to-digital, interference (as is required), nor can field tests alone define with repeatable results digital coverage and performance under impaired conditions of multipath and other interference. While field tests can be used to corroborate lab test results and, of particular interest, to discover RF conditions not encountered under laboratory conditions, they are inadequate for fully evaluating an IBOC DAR system's baseline performance. Accordingly, CEMA urges the Commission to evaluate IBOC system performance based on laboratory test results, not just field testing.

IV. CONCLUSION

For the reasons stated herein and in its initial comments, CEMA urges the Commission to initiate a rulemaking proceeding that will serve to implement the development of the most effective terrestrial DAR, one that meets listeners' expectations in terms of sound quality, and does not interfere with existing analog radio services or other digital services.

Respectfully submitted,

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January 25, 1999

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Reply Comments of the Consumer Electronics Manufacturers Association in RM-9395 was served this 25th day of January 1999 by hand delivery upon the following:

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